

V.—*Two Examples of Abnormal Antennæ in the Crustacea Amphipoda.* By CHAS. CHILTON, M.A., D.Sc., M.B., C.M., LL.D., C.M.Z.S., F.L.S., Professor of Biology, Canterbury College, New Zealand.

IN 1918 I published a note on an abnormal nropod in the amphipod *Orchestia marmorata*, Haswell\*. Since then, in



Fig. 1

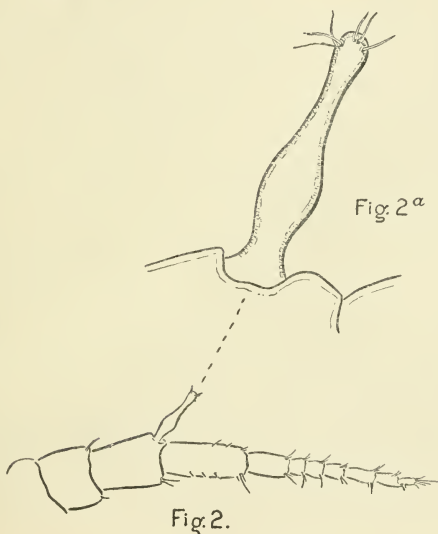
*Orchestia chiliensis*, M.-Edwards. Antennæ, showing the two additional joints in the peduncle of the second antenna.

examining the Amphipoda of various collections, I have met with two examples of abnormal antennæ. These have been

\* Journ. Zool. Research, vol. iii. p. 97.

briefly mentioned in the reports on the collections concerned; but a separate and somewhat fuller account seems desirable. Both examples occur in species belonging to the family Talitridæ, Stebbing (=Orchestidæ, auctorum)—namely, *Orchestia chiliensis*, Milne-Edwards, and *Hyale brevipes*, Chevreux, and in both cases it is the second or lower antenna that is abnormal.

In *Orchestia chiliensis* the normal second antenna is



*Hyale brevipes*, Chevreux.

Fig. 2.—Second antenna, with abnormal appendage arising from fourth joint of peduncle.

Fig. 2 *a*.—The appendage more highly magnified.

generally considered to contain five joints in the peduncle, the first and second being small and more or less fused with the head, the third distinct but short, and the fourth and fifth more elongated and generally subequal, the fifth being followed by the multiarticulate flagellum. The abnormal antennæ were met with in a specimen of this species from

Juan Fernandez, collected by the Swedish South Pacific Expedition. The antennæ are represented in fig. 1, from which it will be seen that in the second there are two additional joints in the peduncle, these being subequal in length and a little longer than the normal fifth joint. Both the right and left second antennæ have these two additional joints, the two antennæ being quite symmetrical. Through the semitransparent integument of the last two joints of the peduncle, the muscles and other soft parts can be indistinctly seen to be much contracted, and throughout the whole of the last joint and the distal portion of the preceding joint they appear to be segmented; apparently this appearance is produced by the soft parts of the flagellum and terminal peduncular joints being retracted preparatory to the next moult, but there is nothing to indicate with certainty whether the antenna after the moult will have the abnormal number of joints or whether it will revert to the normal form.

The second example occurs in a specimen of the small amphipod *Hyale brevipes*, Chevreux, from Chilka Lake, India, and is also in the second antenna. In the upper distal end of the fourth—that is, the penultimate—joint of the peduncle there projects upwards a small appendage nearly as long as the joint from which it arises. This appears to be separated from the joint by a distinct articulation; it broadens near the base, but narrows again towards the rounded apex, which bears about six setules, as shown in fig. 2 a. It bears some slight resemblance to a single-jointed secondary flagellum, but it arises on the second or lower antenna and from the penultimate joint of the peduncle, while the normal secondary appendage always arises from the last peduncular joint of the upper antenna. It is possible, of course, that this abnormal appendage has been the result of some injury. In this case the abnormality occurred on the one antenna of the pair only.

VI.—*The Prey of the Yellow Dung-Fly*, *Scatophaga stercoraria*, L. By Major E. E. AUSTEN, D.S.O.

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ix a preface to a valuable paper on the Yellow Dung-Fly recently published by Mr. G. S. Cotterell\*, Prof. Maxwell

\* "The Life-History and Habits of the Yellow Dung-Fly (*Scatophaga stercoraria*); a possible Blow-Fly Check." By G. S. Cotterell. With a Preface by Prof. Maxwell Lefroy, F.Z.S. Proc. Zool. Soc. Lond. 1920, pt. iv. pp. 629-647, figs. 1-14 (December, 1920).